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TECHNICAL-VOCATIONAL EDUCATION IN VIETNAM.
DEPARTMENT OF NATIONAL EDUCATION

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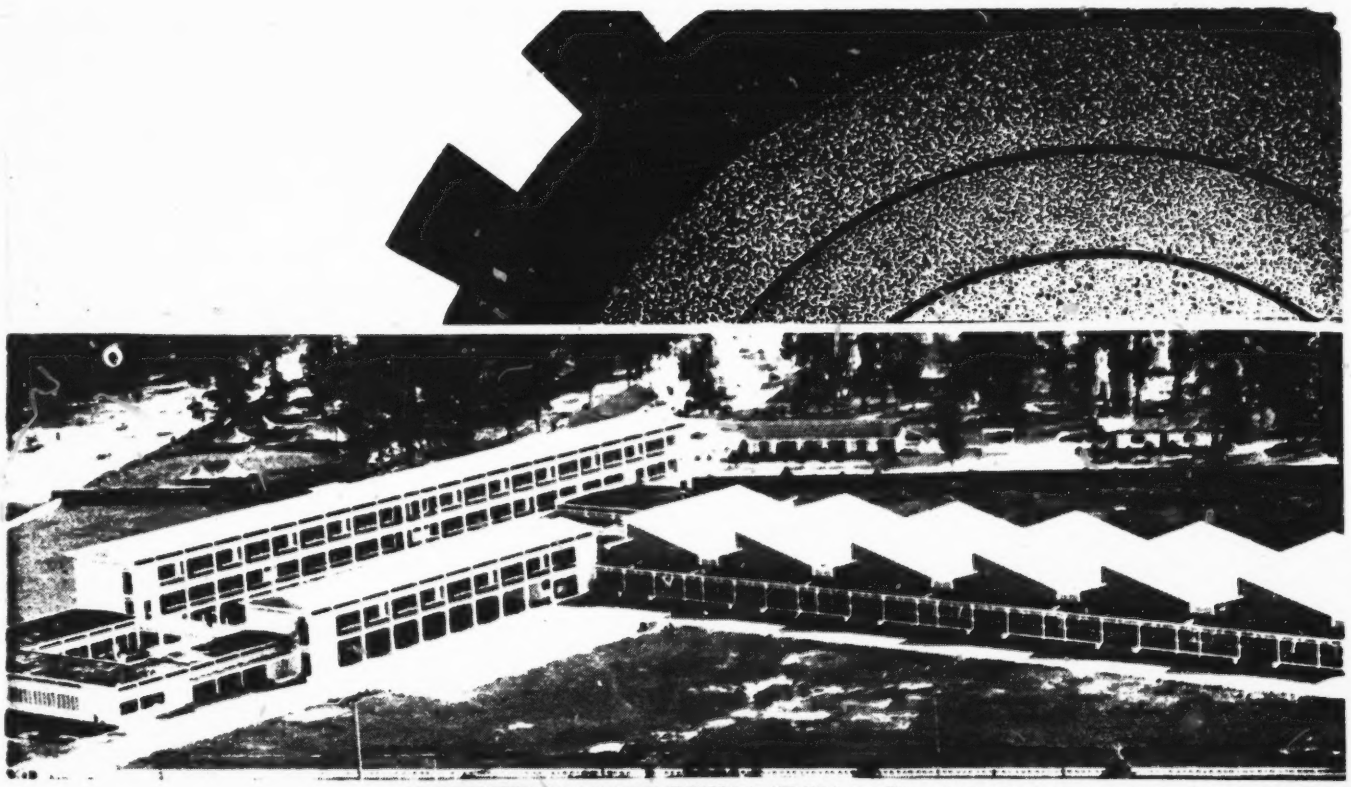
THE DIRECTORATE OF TECHNICAL EDUCATION, SET UP IN 1955, WAS GIVEN THE SPECIFIC DUTY OF TRAINING TECHNICIANS NEEDED FOR DEVELOPING INDUSTRY AND HANDICRAFTS. THE PROBLEMS OF TECHNICAL EDUCATION IN 1955 WERE--(1) THERE WERE ONLY TWO TECHNICAL SCHOOLS AND TWO APPRENTICE SCHOOLS, THREE APPLIED ARTS SCHOOLS, AND SEVEN ATELIER ECOLES (ARTISTS' OR DESIGNER SCHOOLS), (2) THERE WAS A LACK OF MACHINERY AND EQUIPMENT, AND (3) THERE WAS NOT A SINGLE FULL-FLEDGED TEACHER OR SUPERVISOR OF SHOPS IN THE COUNTRY. UNDER THE DIRECTORATE, THERE WERE IN 1962 10 TECHNICAL-VOCATIONAL SCHOOLS, TWO APPLIED ARTS SCHOOLS, NINE ATELIER-ECOLES, AND ABOUT 150 PRIVATE SCHOOLS OFFERING COURSES IN DRIVING, ACCOUNTING, TYPEWRITING, AND HOME ECONOMICS. SECONDARY TECHNICAL STUDENT ENROLLMENT INCREASED FROM 709 IN 1955 TO 4,121 IN 1962, AND THE NUMBER OF SECONDARY TECHNICAL TEACHERS FROM 95 TO 272. TEACHERS WERE TRAINED BOTH OVERSEAS AND AT HOME IN 1962. NEW EQUIPMENT WAS PROVIDED BY FOREIGN AID PROJECTS. SOME OF THE LARGER TECHNICAL SCHOOLS PRODUCED MACHINES WHICH WERE USED TO EQUIP THE SMALLER SCHOOLS. (MM)



TECHNICAL-VOCATIONAL EDUCATION IN VIET-NAM

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DIRECTORATE OF TECHNICAL EDUCATION
DEPARTMENT OF NATIONAL EDUCATION
****** REPUBLIC OF VIET-NAM ******

ED 020319

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TECHNICAL-VOCATIONAL EDUCATION IN VIETNAM

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Translation of a Booklet
issued by the
Directorate of Technical Education
Department of National Education
Republic of Viet - Nam

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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SAIGON, August 1962

Technical - Vocational Education in Viet - Nam

A. Importance of Technical-Vocational Education

AFTER nearly a century of foreign domination, Viet-Nam has recovered her sovereignty. She is at the same time confronted with several urgent problems that affect her independence to a greater or lesser extent. The key problem is to reconstruct the country and improve the underdeveloped economy so as to bring about employment to all. Up until the date of the recovery of independence, we must state that we had neither heavy industry nor light industry. We had to import everything needed for the people's livelihood, from simple household articles to items of machinery. Most of us have the erroneous concept that due to the people's lack of wealth the problem of industrialization cannot be confronted. If lack of capital continues to be the main obstacle, then the key problem will center on training. This means the training of today's and tomorrow's youths to have skilled, constructive hands and comprehending minds, to understand thoroughly the organizational problems and be fully aware of the technical matters relating to their specific daily tasks.

If within a 15-year period Germany and Japan have removed the vestiges of war and vaulted from the position of defeated countries to the rank of big powers, we must recognize that it is not because they have great natural resources but rather that their people's technical level is very high, with hundreds of thousands of technicians serving in all branches of industrial activities. Technical-vocational education plays an important role in the bright success they have achieved. If in West Germany 60% of the students enroll in technical-vocational education, we will not be surprised to learn that in Japan, alongside the 1,800,000 second cycle academic students, there are 1,200,000 technical students.

Let us consider some of the Asian countries which have situations similar to ours. On an island of insignificant area, the Republic of China has 105 technical-vocational schools with 23,000 students enrolled. Their ratio shows that one-third of the secondary-level students are enrolled in technical-vocational education. The Philippines has 43 technical-vocational schools with an enrollment of 47,223 students, three-fourths of whom are boys and one-fourth girls. With a population of 22,800,000, Thailand has 67,247 technical-vocational students.

The eloquent figures cited above illustrate the special interest that these countries devote to technical-vocational education. This important problem is closely related to the prosperity of a country. No one can deny this point. Many people hold the misconception that technical-vocational education has the sole purpose of training capable technicians who will be conscientious, know how to organize work, be able to direct others, to save time, and to conserve materials. This is only one purpose. The industrialization of a country cannot be carried out without the people's moving foward together. Therefore, technical-vocational education should also be directed to a higher, longer range, and broader objective. This includes the wide dissemination of improved techniques of production, the raising of the technical knowledge of all the people, and the creating of an appropriate situation for the development of industry and handicrafts. These achievements require time and money, but they should be considered as necessary developments that will directly influence the way of life, the standard of living, the individual initiative, and the productive capacity of each family.

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B. Progress of Technical-Vocational Education in Viet-Nam

Under the French period, Indochina had, like other colonies, the role of providing France with raw materials and importing nearly all manufactured products needed for the country. Therefore, the technical - vocational education that was organized by the decree of March 2, 1930, signed by the Governor of Indochina, had the sole purpose of training just enough workers to maintain and repair important pieces of equipment needed for the operation of the government. No one could fail to recognize that this branch of education had a subordinate and depressed role in comparison with academic education.

Then World War II broke out. The commercial relations with other countries became very difficult. By herself, Viet Nam had to produce goods to replace imported products. Moreover, the military organizations could not receive any more new equipment from France, so they were compelled to repair and rebuild their worn and damaged material. Technical-vocational education began to receive increasing attention from the government at that time. In 1939 the Director of the Weapons and Technical Service was assigned advisor to the Indochina Service of Education. In 1941 a technical-vocational education statute was issued and a Technical Education Supervisory Service was set up.

However, the role of technical-vocational education was really elevated after the country recovered its independence. By Decree No. 21-GD/ND dated February 3, 1955, an agency called the «Directorate of Technical Education» was set up as a separate entity, distinct from the «Directorate of Elementary and Secondary Education» and having the specific duty of training technicians needed for the development of industry and handicrafts.

C. Directorate of Technical Education

I. ORGANIZATION

The present Directorate of Technical Education is organized according to the regulations of Decree No. 1444-GD/ND dated Nov. 28, 1959. It is under the supervision of a director who is assisted by an engineer. The Directorate includes a section of inspectors and two bureaus:

a/ *Administrative Bureau*

In charge of the office work of the Directorate: to receive, check, number, submit, review, and distribute in-coming correspondence; gather correspondence to be signed, registered and mailed; filing; distribution of Decrees and important documents; preparing periodical and special reports.

In charge of problems related to personnel, accounting, materials, and foreign aid to the Directorate.

In charge of entertainment; social action for the personnel, teaching staff and students; organizing exhibitions, meetings, lectures.

b/ *Bureau of Technical Education*

Study plans for development and improvement of technical-vocational education.

Study programs, plans for construction of shops and laboratories.

Physical organization to carry out above-mentioned programs and plans.

Follow up and carry out foreign aid programs.

Set up school statutes, prepare statutes, curricula, time tables, etc.

Organize technical-vocational examinations.

In charge of the military service deferments and exemptions.

Examine requests for scholarships and student allowances.

Examine requests for opening private technical-vocational schools, and take care of all matters relating to these schools.

II. PROBLEMS OF THE DIRECTORATE OF TECHNICAL EDUCATION

In carrying out its duties, the Directorate of Technical Education has encountered many difficulties from the beginning :

a/ *Lack of Schools*

In 1955, in all Viet-Nam there were only two technical schools (one in Saigon and one in Hue), two apprentice schools (one in Saigon and one in Nha Trang), three applied arts schools, and seven atelier-ecoles. Moreover, several schools were, partly or in whole, requisitioned for other purposes.

b/ *Lack of Machinery and Equipment*

The machines and equipment used for instructional purposes were too old and did not match the progress of our crafts and industries. Besides, there were not enough machines for all the students to use.

c/ *Lack of Personnel*

During the French period, the teaching staff in technical-vocational education included two categories :

1. Personnel of the French service holding positions of teachers and supervisors of shops.
2. Personnel of the local service holding positions of assistant teachers and skilled workers.

When the French turned over to the Government of Viet-Nam the technical-vocational schools, there was not a single full-fledged teacher or supervisor of shops of the local service in all the country.

III. THE ACHIEVEMENTS OF THE DIRECTORATE OF TECHNICAL EDUCATION

In order to meet the pressing needs of the nation's crafts and industries, the Directorate of Technical Education has striven to achieve the following main objectives :

— Increase the number of schools and classrooms.

— Equip the shops.

— Develop the curriculum; set up a technical publication, translation, and printing service.

— Train new teaching staff and raise the technical level of the present teaching staff through in-service courses.

1. Increasing the Number of Schools and Classrooms

The Cao-Thang Technical School in Saigon was converted into a second-cycle technical school, the Saigon Apprentice School became the Nguyen-Truong-To Technical School (first-cycle), and the Nha-Trang Apprentice School and the Banmethuot Atelier-Ecole were also transformed into first-cycle technical schools. Many new schools, such as the National School of Commerce, the Phu-Tho Polytechnic School, and the Vinh-Long, Da-Nang, and Qui-Nhon Technical Schools were founded with funds from national and foreign aid budgets. At present, the Directorate of Technical Education is responsible for:

a/ Four second-cycle technical-vocational schools: the Cao-Thang Technical School, the Phu-Tho Polytechnic School, the National School of Commerce, and the Da-Nang Technical School.

b/ Six first-cycle technical schools in Saigon, Vinh-Long, Hue, Qui Nhon, Nha-Trang, and Banmethuot.

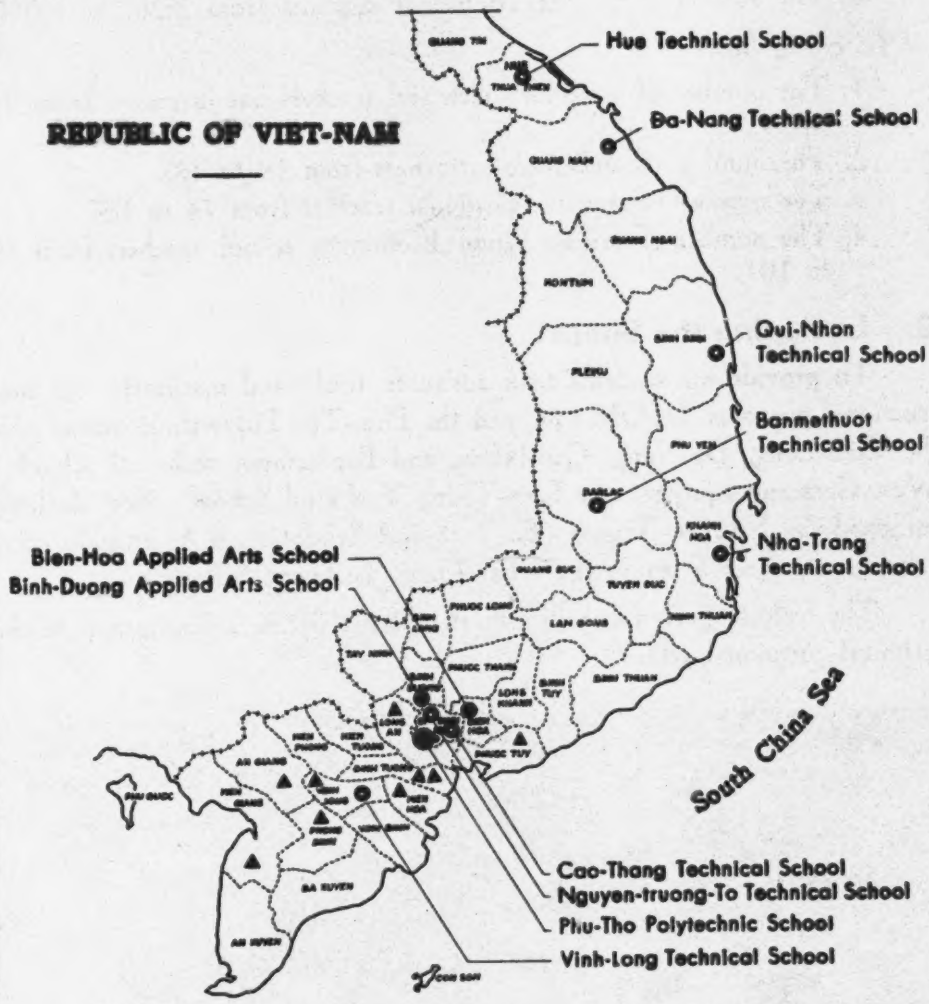
c/ Two applied arts schools in Bien-Hoa and Binh-Duong.

d/ Nine atelier-ecoles in Go-Cong, My-Tho, Long-An, Phuoc-Tuy, Kien-Giang, Vinh-Long, An-Giang, Kien-Hoa, and Phong-Dinh.

Moreover, the Directorate of Technical Education controls nearly one hundred private Home Economics schools and some 150 other private schools — spread all over the country — where courses in driving, accounting, typewriting, etc. are offered.

MAP OF THE LOCATION OF TECHNICAL-VOCATIONAL SCHOOLS

REPUBLIC OF VIET-NAM



● — POLYTECHNIC SCHOOL
⊙ — TECHNICAL SCHOOL
● — APPLIED ARTS SCHOOL
▲ — ATELIER-ECOLE

Enrollment and teaching staff are increasing regularly :

a/ *Enrollment* : From 1954-1955 school year to 1962-1963 school year

1. The number of secondary technical students has increased from 709 to 4,121.
2. The number of atelier-ecole students from 574 to 710.
3. The number of Home Economics students from 342 to 4,360.
4. The number of private vocational students from 2,267 to 4,050.

b/ *Teaching Staff* :

1. The number of secondary technical teachers has increased from 95 to 272.
2. The number of atelier-ecole teachers from 19 to 48.
3. The number of private vocational teachers from 74 to 157.
4. The number of private Home Economics school teachers from 28 to 101.

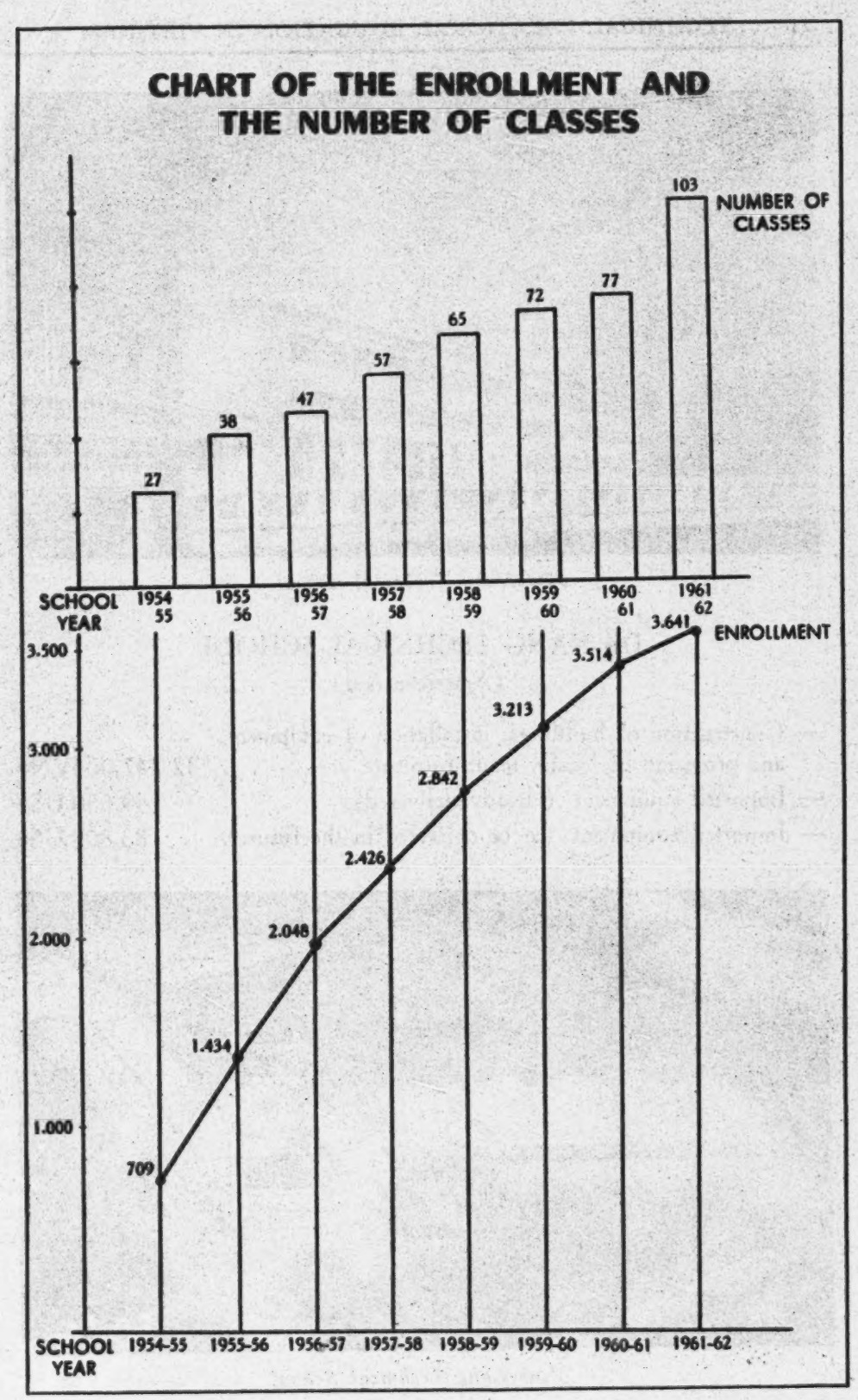
2. Equipping the Shops

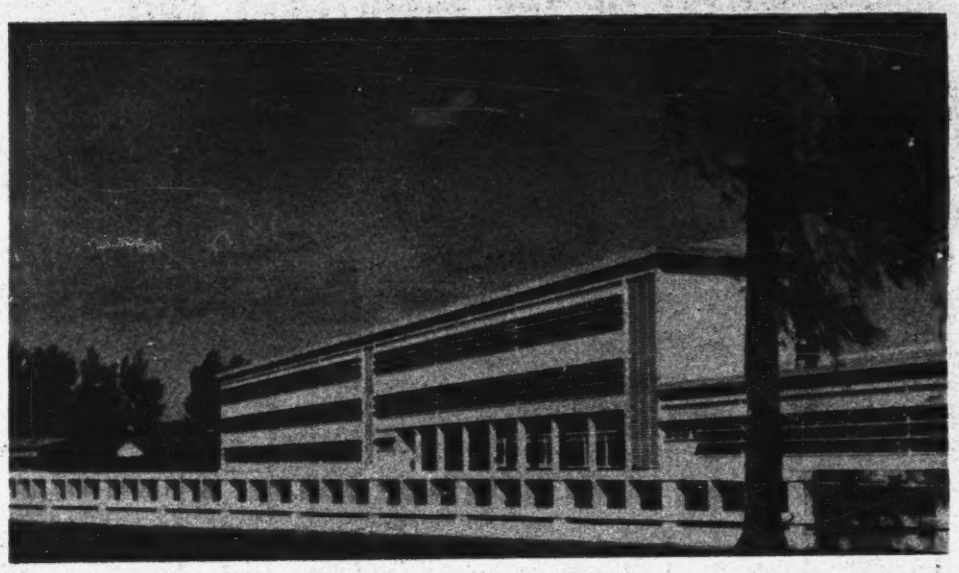
To provide the students with adequate tools and machinery for instructional purposes, USOM equipped the Phu-Tho Polytechnic School and the Vinh-Long, Da-Nang, Qui-Nhon, and Banmethuot technical schools; West Germany equipped the Cao-Thang Technical School; New Zealand equipped the Nguyen-Truong-To Technical School; and Australia is considering a project to equip the Nha-Trang Technical School.

The following figures will indicate the size of the aid programs to the technical-vocational schools :

Phu-Tho Polytechnic School in Saigon

CHART OF THE ENROLLMENT AND THE NUMBER OF CLASSES





Da-Nang Technical School

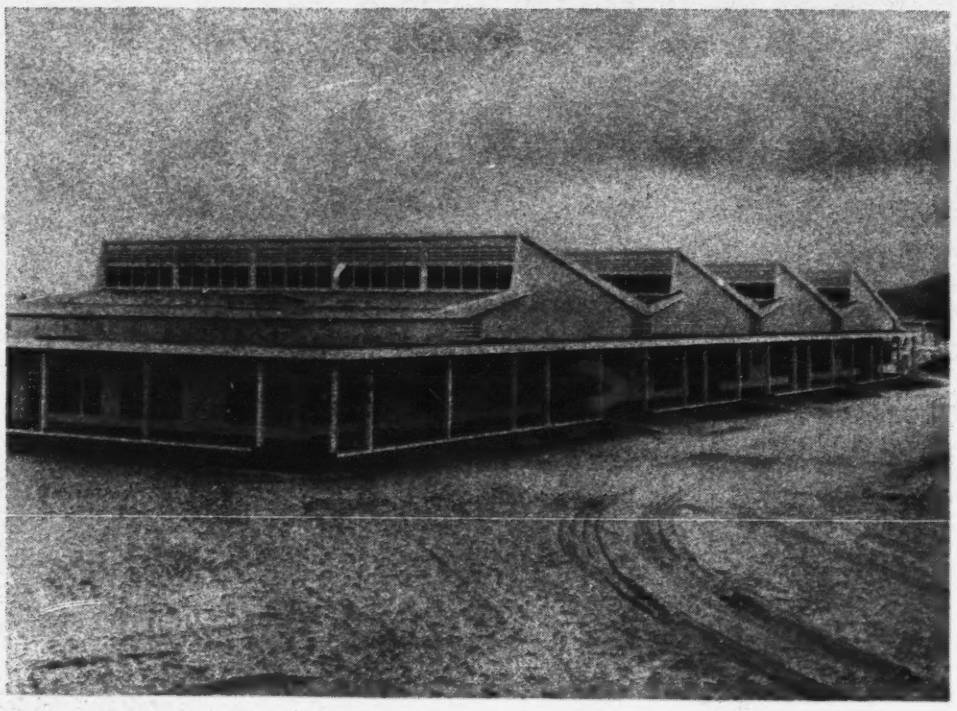
DA-NANG TECHNICAL SCHOOL
(American Aid)

— Construction of buildings, installation of equipment, and provision of locally-made furniture	32,247,000VN$
— Imported equipment (already delivered).	149,630 US$
— Imported equipment (to be delivered in the future).	83,800 US$

Vinh-Long Technical School

VINH-LONG TECHNICAL SCHOOL
(American Aid)

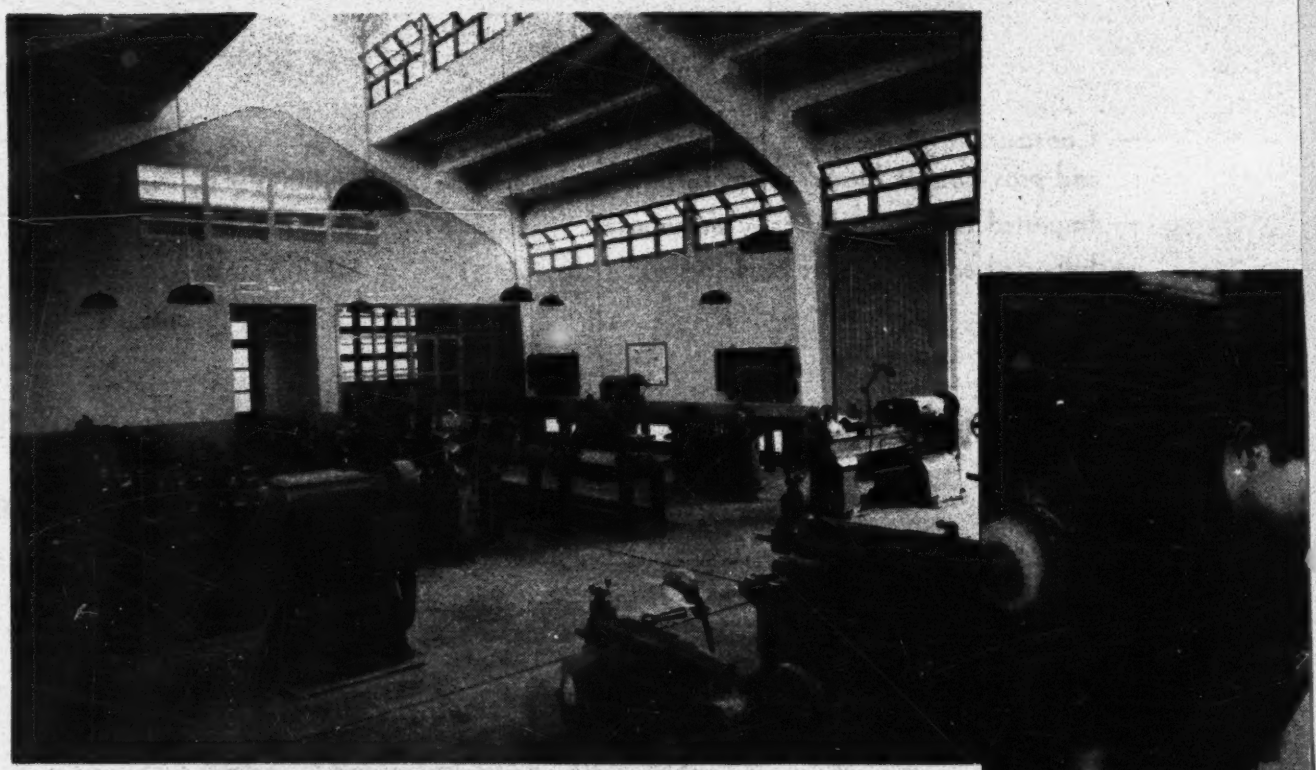
— Construction of buildings, installation of equipment, and provision of locally-made furniture . . . . . 25,216,000VN$
— Imported equipment (already delivered) . . . . . 144,704 US$
— Imported equipment (to be delivered in the future). 57,000 US$



Qui-Nhon Technical School

QUI-NHON TECHNICAL SCHOOL
(American Aid)

— Construction of buildings, installation of equipment, and provision of locally-made furniture . . . . . 25,992,000VN$
— Imported equipment (already delivered) . . . . . 105,473 US$
— Imported equipment (to be delivered in the future). 99,200 US$



Machine Shop at the Phu-Tho Polytechnic School in Saigon

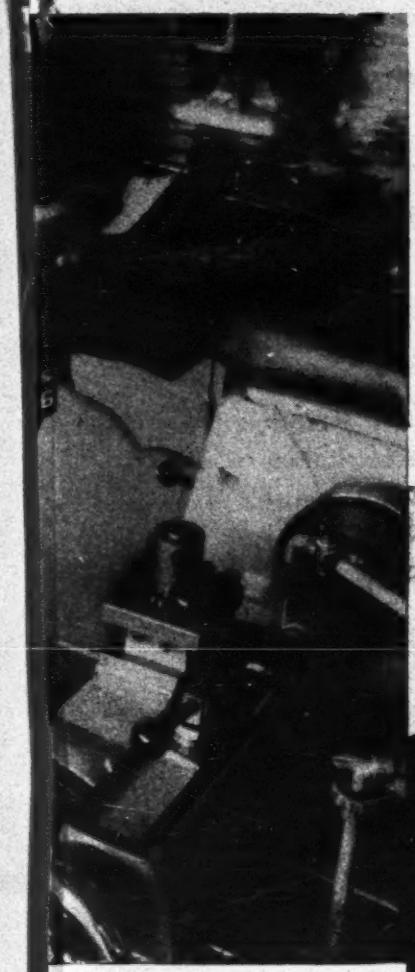
Machine Shop
Technical Sc

PHU-THO POLYTECHNIC SCHOOL
(American Aid)

— Construction of buildings (already completed) . .	6,000,000VN$
— Construction of buildings (to be completed during 1962).	14,000,000VN$
— Imported equipment (already delivered).	320,000 US$
— Imported equipment (to be delivered in the future)	169,500 US$

CAO-THANG TECHNICAL SCHOOL
(West German Aid)

— Imported equipment . . . . . 1,500,000 Deutsche Marks
(Approximately equivalent to 375,000 US$ or 27,000,000VN$)



at the Cao-Thang
hool in Saigon

Dedication of the auto shop at the Banmethuot Technical School

BANMETHUOT TECHNICAL SCHOOL
(American Aid)

— Construction of buildings (to be carried out during 1962 and 1963). . . . . 15,000,000VN$
— Imported equipment (to be delivered in the future) 55,800 US$

3. Developing the Curriculum

The secondary technical school curriculum has two objectives :

— To discover the students' ability.
— To develop this ability.

Therefore, the curriculum is divided into two well-defined periods :

— Orientation period.
— Vocational training period.

a/ *Orientation period*

Duration 2 years; equivalent in level to the U.S. sixth and seventh grades. For academic subjects, the students must follow the same curriculum that is applied in academic schools. For technical subjects, they take turns in studying the following trades: woodworking, sheet - metal work and welding, electricity, bench metal work, machine shop, and mechanics. The 34-hour weekly schedule includes :

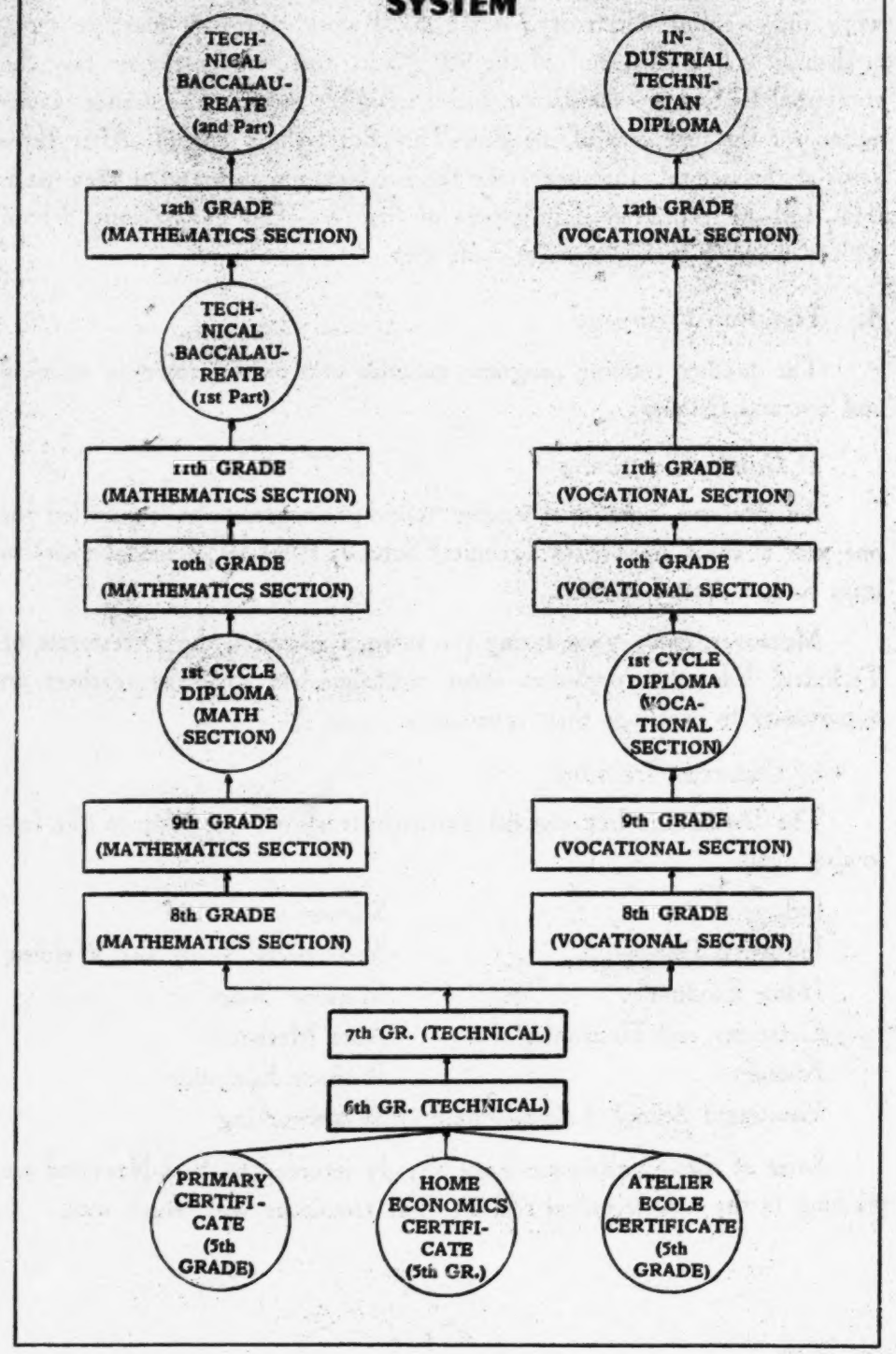
4 hours of shop subjects.
2 hours of mechanical drawing.
28 hours of academic subjects.

b/ *Vocational period*

At the end of the 7th grade, the board of teachers distribute the students to the appropriate 8th grade sections, based on the latter's achievements over the preceding two years.

Students with a gift in Mathematics, Physics, and Chemistry are enrolled in the Mathematics section. After finishing the 8th and 9th grades, these students may sit for the technical first-cycle examination and will go to the 10th grade if their scores are sufficiently high. At the end of the 11th grade, the students will take the examination for the Technical Baccalaureate (First Part) and at the end of the 12th grade, they will take the examination for the Technical Baccalaureate (Second Part).

CHART OF THE TECHNICAL-VOCATIONAL EDUCATION SYSTEM


TECH-NICAL BACCALAU-REATE (and Part)
IN-DUSTRIAL TECHNI-CIAN DIPLOMA
12th GRADE (MATHEMATICS SECTION)
12th GRADE (VOCATIONAL SECTION)
TECH-NICAL BACCALAU-REATE (1st Part)
11th GRADE (MATHEMATICS SECTION)
11th GRADE (VOCATIONAL SECTION)
10th GRADE (MATHEMATICS SECTION)
10th GRADE (VOCATIONAL SECTION)
1st CYCLE DIPLOMA (MATH SECTION)
1st CYCLE DIPLOMA (VOCA-TIONAL SECTION)
9th GRADE (MATHEMATICS SECTION)
9th GRADE (VOCATIONAL SECTION)
8th GRADE (MATHEMATICS SECTION)
8th GRADE (VOCATIONAL SECTION)
7th GR. (TECHNICAL)
6th GR. (TECHNICAL)
PRIMARY CERTIFI-CATE (5th GRADE)
HOME ECONOMICS CERTIFI-CATE (5th GR.)
ATELIER ECOLE CERTIFICATE (5th GRADE)

The students who are vocationally gifted are allowed to select one of the following trades according to their ability: woodworking, sheet-metal work and welding, electricity, bench metal work, forging, machine shop, mechanics, etc. At the end of the 9th grade, these students may take the vocational first-cycle examination and are eligible to take the entrance examination for the first year of the Phu-Tho Polytechnic School. After three years at this school, they may take the final examination and if they pass, they will be conferred the diploma of the Phu-Tho Polytechnic School with a major in their respective trade area.

4. Teacher Training

The teacher training program includes two parts: domestic training and overseas training.

a/ *Domestic Training*

An intensive vocational teacher training program was conducted for one year at the Cao-Thang Technical School (1958-1959 school year) to train basic technical teachers.

Moreover, every year during the summer vacation, the Directorate of Technical Education organizes short workshops to give the teachers an opportunity to exchange their experiences.

b/ *Overseas Training*

The Directorate has sent 80 participants abroad to study in the following fields:

Industrial Arts	Science
Industrial Design	Sheet Metal Work and Welding
Home Economics	Machine Shop
Electricity and Electronics	Auto Mechanics
Foundry	Business Education
Vocational School Administration	Woodworking

Some of these participants have already returned to Viet-Nam and are teaching in the new technical schools. The remainder will return soon.

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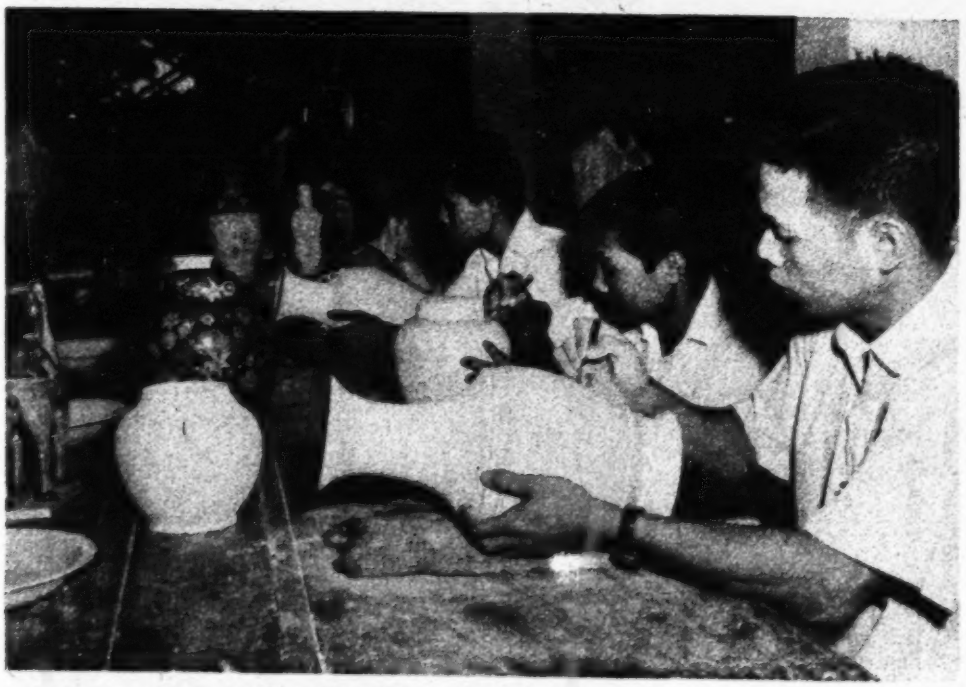
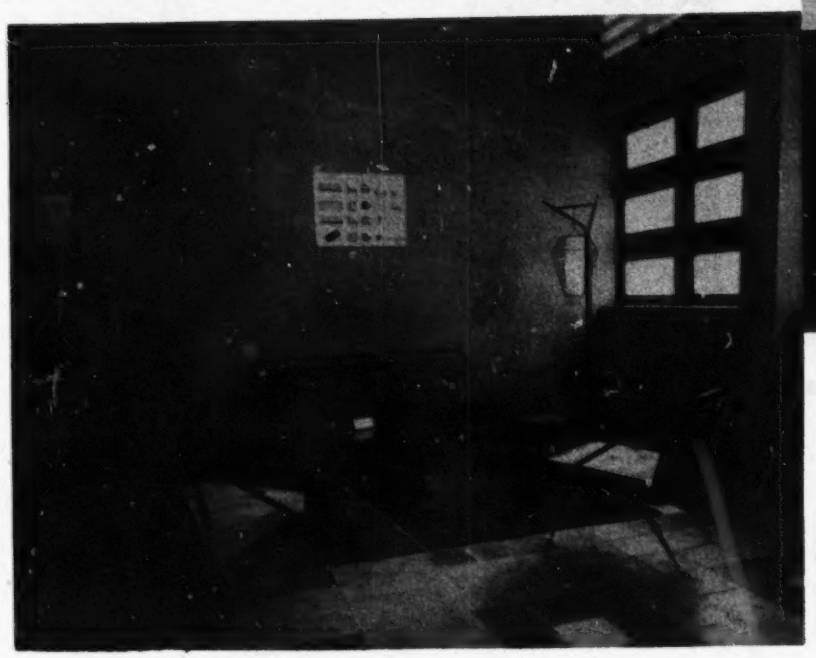
The Binh-Duong Applied Arts School

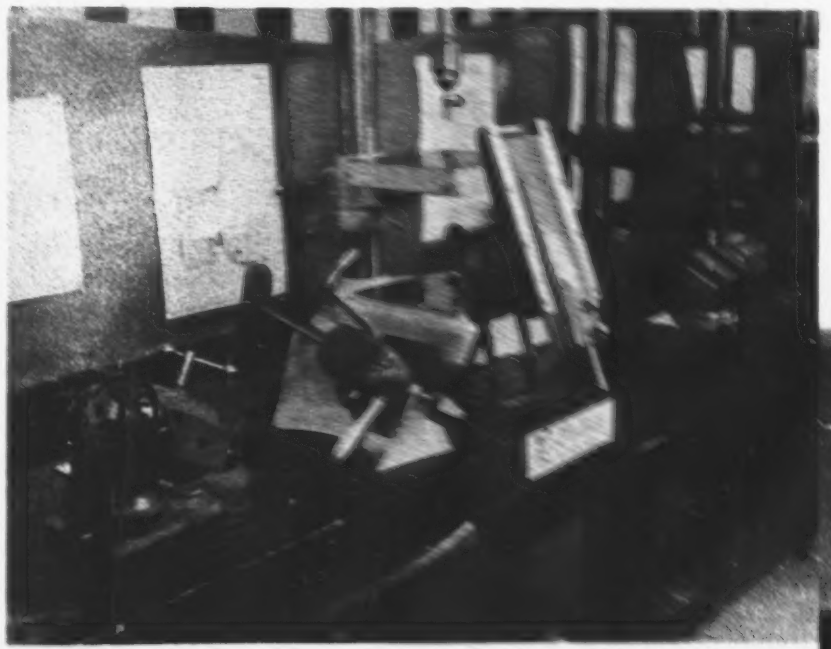


The Bien-Hoa Applied Arts School

Final examination projects made by students



of the
Pin-The Polytechnic School



Display of equipment designed and made by students of the Phu-Tho Polytechnic School as final examination projects

D. Five-Year Plan 1962-66 Expansion and Improvement of Technical-Vocational Education

This five-year plan will aim at :

- — Re-organizing the system of atelier-ecoles in populated rural centers.
- — Improving the existing technical schools.
- — Expanding the Phu-Tho Polytechnic School.
- — Training technical-vocational teachers.
- — Strengthening the section for publication of technical and vocational textbooks.
- — Organizing night classes.
- — Setting up experimental production centers.

1. Re-organizing the Existing Atelier-Ecoles

At the present time, Viet-Nam has ten atelier-ecoles scattered in various provinces and equipped with rudimentary machinery and equipment which was discarded by government agencies. These schools will gradually be developed into technical schools. The trade courses that are not related to the local economic development will be eliminated and replaced by training in crafts that will be beneficial to the people's livelihood. Night classes will be opened for local adults to improve their technical knowledge so as to raise the level of production and elevate their standard of living.

2. Improving the Existing Technical Schools

a/ Set up an additional technical school in Saigon to relieve the overcrowding at the Cao-Thang and Nguyen-Truong-To Technical Schools.

b/ Remodel the shops at Cao-Thang Technical School to receive West German equipment.

c/ Remodel the shops at Nguyen-Truong-To Technical School to receive additional equipment from New Zealand.

d/ Remodel the shops at Nha-Trang Technical School to receive the expected equipment from Australia.

3. Expanding the Phu-Tho Polytechnic School

During the coming months, this school will receive additional American equipment valued at 160,000US$. A team of American professors has joined the school to strengthen the instructional program. It is planned that the school will open additional sections to provide training in ceramics, foundry, metallurgy, electronics, home economics, and business education. To help carry out this plan, it is expected that USOM will finance 30,000,000VN$ worth of additional building construction, divided into two phases :

— The first phase, involving 14,000,000VN$ worth of new classroom and shop space, will be carried out in 1962.

— The second phase, covering the remainder of the needs for classroom, laboratory, and shop space, is to be done in 1963 and later years.

After this plan is accomplished, technical-vocational education in Viet Nam will have a model technical center, well-housed and equipped with the most up-to-date training equipment in all of South East Asia.

Jig saw designed and made by students at the Phu-Tho Polytechnic School

Circular saw designed and made by students at the Phu-Tho Polytechnic School

4. Teacher Training

The expansion of technical-vocational education is dependent upon the teacher training program. A number of new graduates of technical schools, as well as some experienced shop teachers, have been sent to Germany, the United States, and France for training. The number, however, is much too small in comparison with real needs.

The setting up of a permanent program to train theoretical and practical teachers for the technical-vocational schools is of utmost importance at this stage. To minimize the expenses of such a program, the Department of National Education is planning to open a college-level vocational teacher training department at the Phu-Tho Polytechnic School at the beginning of the next school term. Furthermore, to improve the level of present technical teachers who are not familiar with advanced techniques, in-service training courses will be held regularly at this school.

5. Strengthening the Section for Publication of Technical and Vocational Textbooks

In order to prepare and disseminate technical materials that will help in the development of the nation's industries and handicrafts, the working out of technical terms, the translation of technical textbooks, the printing of teaching materials, and the setting up of technical libraries are necessary in the new educational system.

6. Organizing Night Classes

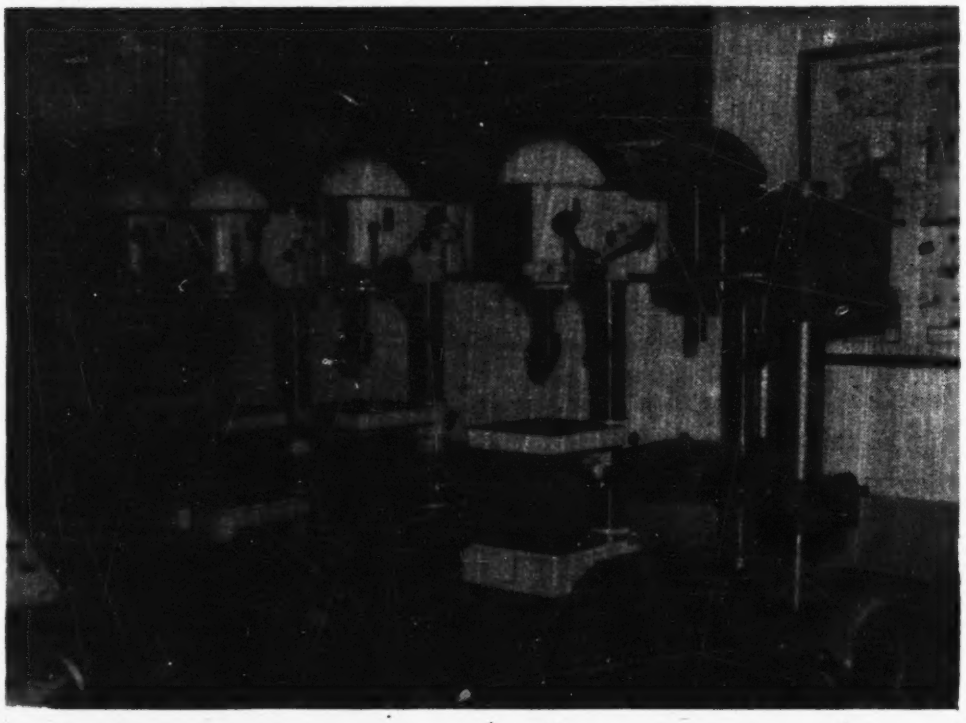
The night classes will offer training in bookkeeping, commerce, shorthand, radio servicing and repair, gasoline engines, diesel engines, welding, woodworking etc. The purpose of these classes will be to:

— Train the students in the maintenance and repair of commonly used machines such as automobiles, bicycles, water pumps, etc.

— Teach the students a trade with which they can earn their living.

— Raise the level of the labor force to keep pace with the progress made by the nation's industries.

Drill presses planned and made by students at the Phu-Tho Polytechnic School for use in the provincial Technical Schools



7. Setting up Experimental Production Centers

At the present stage, Vietnamese industrialists are confronted with mojor problems, including the lack of capital and equipment and the lack of technicians who are experienced in industrial organization and who are not hesitant about developing new technical improvements. Hence, the investment of capital in the re-equipping of the industrial shops is retarded.

The technical schools which receive modern equipment from the various foreign aid programs should help industrialists who lack means. Under the guidance of foreign specialists and Vietnamese technicians, these technical school centers should take charge of experimenting with the modernization of production methods, studying technological problems that are beyond the industrialist's ability in terms of time and means, gathering specialized materials relating to industries and handicrafts now under development, and organizing special classes to give training in the use of machines which are not now common in industry.

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Conclusion

The industrialization of a nation cannot be carried out unless the common people's level is elevated concurrently. Therefore, at this period of time, the main duty of technical-vocational education is to disseminate among the people basic technological concepts, to encourage the technological attitude, and to bring about a situation favorable for the development of industries and handicrafts. The young people should get accustomed to pieces of machinery and should learn to assemble, dis-assemble, and make use of them. They should try to understand simple mechanisms first, then the more complicated ones. Under these conditions, the creative ability of the individual will develop vigorously and will lead to improvements and inventions in many branches of production. As time goes on, due to the technological expansion, the specialized knowledge of the people will be elevated, the organization of work will become more scientific, the use of materials and equipment will become more efficient, and then the level of production will increase even more rapidly.

In the past few years, thanks to the combination of several foreign aid projects, technical-vocational education has made great strides forward. A system of technical schools has been set up in important locations throughout the country. Many of the school shops have been equipped with up-to-date machinery. A section for publication of technical and vocational textbooks has been established. Eighty technical - vocational teachers have been trained in the United States and in Germany. A college-level vocational teacher training program will be opened soon in Viet-Nam. Night classes are being organized to expand technology. Some of the larger technical schools have started producing machines which can be used to equip the smaller provincial technical schools. In the years to come, in spite of the great difficulties stemming from the insecurity of the country, we can be confident that technical-vocational education will continue to improve steadily so as to serve the people in an increasingly effective way.